

It appears from the experience of the writer, that the lower leaflets show a good deal of movement and that such movement is due to the rapid wilting of the leaf. There is a curious feature of the phenomenon, however, in the fact that the lessening of the distance between the leaflet tips is not due to a general curvature in those parts, at least in the early part of the process, but rather to a more local, and therefore stronger, curvature at the base of each leaflet.

The matter would seem not unworthy of further examination. We still are unable to answer the curious in regard to the origin of the specific name; nevertheless, that the leaf is "sensitive" appears doubtless true. "Squeezing the stem" has, however, nothing to do with it.

Spore Expulsion in Webera (Diphyscium) sessilis.—The peculiar, dorsiventral form assumed by the sporogonium of this plant is, according to Goebel, assumed under the influence of one-sided illumination. This was shown by cultivating the young sporogonia, which are radially symmetrical under appropriate conditions. The same author explains the form of this organ teleologically as an arrangement by which the dissemination is facilitated by falling raindrops.*

By tapping the upper side of a dry ripe capsule with a pencil point the action of the raindrop falling upon it may be imitated. In this way I have been able to see a puff of spores shot out very rapidly to a distance of two inches. Doubtless the natural conditions result still more favorably. The behavior is sufficiently striking, however, as it stands.

A KEY TO THE NORTH AMERICAN SPECIES OF CORTINARIUS.—II†

BY F. S. EARLE

INOLOMA

- | | |
|---|-----|
| 1. Lamellae at first white or pallid. | 2. |
| Lamellae at first violaceous (as also the stipe and cortina). | 4. |
| Lamellae at first yellow, red, or cinnamon. | 11. |

* Organography (translation), p. 237.

† Continued from page 172.

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|---|--|-------------------|
| 2. Stipe colored like the pileus, hollow.
Stipe white. | <i>C. modestus</i> Pk. | 3. |
| 3. Pileus subferruginous; lamellae crowded.
Pileus whitish, then reddish-yellow; lamellae subdistant. | <i>C. caespitosus</i> Pk.
<i>C. canescens</i> Pk. | |
| 4. Pileus light bluish or lilac.
Pileus dark bluish, violet or purple.
Pileus no shade of blue or violet. | <i>C. violaceus</i> (L.) Fr. | 5.
6. |
| 5. Stipe strongly bulbous.
Stipe subconic or clavate, not bulbous. | <i>C. lilacinus</i> Pk.
<i>C. albo-violaceus</i> (Pers.). | |
| 6. Stipe light-colored or whitish, at least below.
Stipe darker, sub-concolorous. | | 7.
9. |
| 7. Pileus grayish or whitish tinged with red.
Pileus brownish-gray. | <i>C. erraticus</i> Pk. | 8. |
| 8. Pileus nearly white; lamellae bright deep violet.
Pileus darker; lamellae dingy violet. | <i>C. pulchrifolius</i> Pk.
<i>C. rubro-cinereus</i> Pk. | |
| 9. Pileus scaly.
Pileus silky-fibrillose, reddish-brown. | <i>C. Clintonianus</i> Pk. | 10. |
| 10. Pileus fawn-color with blackish scales.
Pileus ochraceous with brown scales. | <i>C. pholideus</i> Fr.
<i>C. asper</i> Pk. | |
| 11. Pileus yellow or ochraceous.
Pileus cinnamon or ferruginous.
Pileus red or reddish-brown. | | 12.
13.
14. |
| 12. Pileus smooth.
Pileus squamulose. | <i>C. ochraceus</i> Pk.
<i>C. annulatus</i> Pk. | |
| 13. Pileus nearly smooth.
Pileus densely fibrillose-squamulose. | <i>C. Catskillensis</i> Pk.
<i>C. squamulosus</i> Pk. | |
| 14. Pileus smooth, glabrous.
Pileus fibrillate. | <i>C. robustus</i> Pk. | 15. |
| 15. Flesh pallid; odor of radishes.
Flesh white; odor none. | <i>C. erraticus</i> Fr.
<i>C. autumnalis</i> Pk. | |

TELAMONIA

- | | |
|---|------------------------------|
| 1. Lamellae thick, rather distant; stipe spongy or fibrous. | Section <i>Platyphylli</i> . |
| Lamellae thin, narrow, crowded; pileus thin; stipe hollow,
subcartilaginous. | Section <i>Leptophylli</i> . |

Platyphylli

- | | | |
|---|---------------------------|----------------------|
| 1. Stipe and veil white.
Stipe and lamellae violet, cortina light violet, veil white.
Stipe and veil red or yellow; lamellae cinnamon.
Stipe brown; lamellae dark, brownish. | | 2.
6.
7.
9. |
| 2. Pileus pale gray.
Pileus dark brown. | <i>C. griseus</i> Pk. | 3. |
| 3. Lamellae at first ferruginous.
Lamellae at first yellow. | <i>C. gracilis</i> Pk. | 4. |
| 4. Stipe solid.
Stipe stuffed or hollow. | <i>C. flavifolius</i> Pk. | 5. |

- | | |
|---|---|
| 5. Pileus conic to convex, umbonate.
Pileus convex to expanded. | <i>C. badius</i> Pk.
<i>C. castaneoides</i> Pk. |
| 6. Pileus violaceous to brick-red.
Pileus violaceous to grayish-red. | <i>C. torvus</i> Fr.
<i>C. torvus nobilis</i> Pk. |
| 7. Lamellae linear; pileus bay or brick red.
Lamellae broad. | <i>C. Robinsonii</i> Mont.
8. |
| 8. Stipe yellow.
Stipe reddish, or whitish with two to four red zones. | <i>C. patulosus</i> Pk.
<i>C. armellatus</i> (A. & S.) Fr. |
| 9. Lamellae purplish-brown; pileus dark brown to pallid.
Lamellae brown or yellow-brown. | <i>C. adustus</i> Pk.
10. |
| 10. Stipe long, 5-8 cm.; pileus bay-brown to fulvous.
Stipe shorter, 2½-5 cm.; pileus fuscous to ochraceous. | <i>C. distans</i> Pk.
<i>C. fufurellus</i> Pk. |

Leptophylli

- | | |
|---|--|
| 1. Stipe white or pallid.
Stipe violet. | 2.
<i>C. subflexipes</i> Pk. |
| Stipe brown. | 3. |
| 2. Pileus blackish chestnut, paler when dry.
Pileus watery cinnamon, paler when dry. | <i>C. nigrellus</i> Pk.
<i>C. lignarius</i> Pk. |
| 3. Pileus densely fibrillate.
Pileus canescent, then glabrate and rimose. | <i>C. hemitrichus</i> (Pers.) Fr.
<i>C. ilipodius</i> (Bull.) Fr. |

DERMOCYBE

- | | |
|---|--|
| 1. Lamellae at first white or pallid.
Lamellae at first violet or purple.
Lamellae at first yellow, red or cinnamon.
Lamellae at first dark brown or olivaceous. | 2.
5.
7.
13. |
| 2. Pileus white or pallid.
Pileus dark brown. | 3.
4. |
| 3. Lamellae crowded.
Lamellae subdistant. | <i>C. ochroleucus</i> (Schaeff.) Fr.
<i>C. albidifolius</i> Pk. |
| 4. Pileus subglabrous.
Pileus with minute brown scales. | <i>C. sericeps</i> Pk.
<i>C. tigrinus</i> Johns. |
| 5. Pileus grayish-violet when young.
Pileus argillaceous.
Pileus dark reddish-brown. | 6.
<i>C. brevissimus</i> Pk.
<i>C. anomalus</i> Fr. |
| 6. Lamellae subcrowded.
Lamellae distant. | <i>C. simulans</i> Pk.
<i>C. rimosus</i> Pk. |
| 7. Lamellae and cortina red.
Lamellae yellow or brown. | 8.
9. |
| 8. Entire plant cinnabar red.
Entire plant blood red. | <i>C. cinnabarinus</i> Fr.
<i>C. sanguineus</i> (Wulf.) Fr. |
| 9. Pileus yellow.
Pileus dark chestnut.
Pileus cinnamon or tawny brown. | <i>C. luteus</i> Pk.
<i>C. castanellus</i> Pk.
10. |
| 10. Cortina forming a webby basal annulus.
Cortina not forming a basal annulus. | <i>C. basalis</i> Pk.
11. |

11. Spores large, $11-13 \mu \times 4-5 \mu$. *C. aurifolius* Pk.
 Spores smaller, $7-8 \mu \times 4-6 \mu$. 12.
12. Stipe long, 5-8 cm. *C. cinnamomeus* (L.) Fr.
 Stipe short, $1\frac{1}{2}-2\frac{1}{2}$ cm. *C. Sintenisii* Bres.
13. Stipe white. *C. appendiculatus* Johns.
 Stipe concolorous. *C. lutescens* Pk.

HYDROCYBE

1. Pileus somewhat fleshy, margin incurved when young; stipe attenuate above.
 Section *Firmiores*.
- Pileus submembranous, margin straight from the first; stipe subcylindric or attenuate below. Section *Tenuiores*.

Firmiores

1. Stipe white, cortina colored like pileus. 2.
 Stipe and lamellae violaceous. 3.
 Stipe and subobsolete veil yellow or reddish. 4.
 Stipe brown; cortina white or pallid; lamellae dark. 5.
2. Lamellae at first pallid. *C. armeniacus* (Schaeff.) Fr.
 Lamellae at first violaceous. *C. regularis* Pk.
3. Stipe smooth, glabrous. *C. castaneus* (Bull.) Fr.
 Stipe fibrillose. *C. fusco-violaceus* Pk.
4. Small; pileus 1-2 cm.; in pastures. *C. vernalis* Pk.
 Larger; pileus $2\frac{1}{2}-4$ cm.; in woods. *C. pulcher* Pk.
5. Small; pileus $1-3\frac{1}{2}$ cm.; on ground in woods. *C. praepallens* Pk.
 Large; pileus 10 cm.; on logs. *C. rubidus* Mont.

Tenuiores

1. Pileus bay-brown, disc darker. *C. decipiens* (Pers.) Fr.
 Pileus pale alutaceous, darker when dry. *C. pallidus* Pk.
 Not able to place *C. venosus* Johns.

NEW YORK BOTANICAL GARDEN.

PETIOLATE CONNATION IN TRIFOLIUM PRATENSE

BY CHARLES A. WHITE

Among the autumn stools of *Trifolium pratense* growing upon my house-lot in Washington I discovered in October last a leaf consisting of five leaflets and an unusually strong petiole. It was the fifth and innermost one of the five leaves which were then borne upon one of the six sprouts constituting the stool. All the other leaves of that stool, and all those of the many other stools which I examined bore only the normal number of three leaflets each. Supposing this leaf to have been a foliate variation similar to that which has become the race character of Professor